



MEMORANDUM

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SITE BIG RIVER MINE
ID# MD0981126899
BREAK L3
OTHER MDNR
3/26/80

Date March 26, 1980
To Richard F Rankin through John Howland
From Jim Doesburg
Subject Big River Tailings Problem

I made a trip to the Big River in St. Francois County on March 18, 1980 to examine the St. Joseph tailings pile near Desloge. Larry Alderson from our Jefferson City laboratory accompanied me to take water samples to determine levels of Pb, Zn, Cd, Fe, pH, and conductivity. We met at the tailings site with two geologists from the Missouri Geological Survey who had laid out a plan for sampling.

We took samples as follows

- 1 standing water in conduit from drain tower,
- 2 flowing water from stream entering tunnel,
- 3 flowing water from stream exiting tunnel,
- 4 samples from Big River

(see map for sample locations)

All samples were filtrated, tested for pH and conductance in the field, and preserved for later analysis. The Jefferson City lab will analyze the samples from the first three sites and the DGLS lab will analyze the Big River samples.

We took a sample at a fifth site located due west of the guard shack. This area was above the old mine shaft and was riddled with old core holes where rock samples were taken. The old mine shaft has filled with water and water is flowing from these old core holes in an artesian condition. DGLS is running the analysis on this sample also.

The attached map shows some interesting features. First of all the tunnel goes under a portion of the tailings. This area is not presently being used as a landfill site. However, after talking with the landfill operator we discovered that the tunnel is overlain by a pre-existing dump that the city of Desloge used for about 30 years. This dump was closed in 1973 and was covered with local fill material. It was not sealed. The old dump site is still being used by persons who are unable or unwilling to use the landfill. The area abounds with trash.

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SUPERFUND RECORDS

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Page 2

March 26, 1980

There may be a location where the new landfill could be sampled for leachate. The map shows where an outcrop of limestone abuts the Big River. This site has water flowing from a crevasse that could possibly drain the tailings in the area of the landfill. This site should be sampled when conditions permit.

Unfortunately, we are in a rather awkward position. Dr. Novak's report strongly recommends that we establish a monitoring program to determine if there is free lead moving from the tailings into the river. Basic scientific evidence and the appearance of the site tend to indicate that there would be no free lead anywhere in this carbonate rich area. We cannot say this without at least a cursory sampling attempt around the landfill itself. If we assume that the lead is not moving and then are confronted with a problem in the future, we would be open for criticism about our inaction, especially in light of the report from Dr. Novak (for which we paid \$50,000).

I recommend that we contact DGLS about another meeting. At our last meeting, we had decided that we would devote the week of April 1 to the problem with the intention of setting up monitoring wells. Lab results should be back by April 4, 1980. We will have to postpone the monitoring work until the second or third week in April if we want to see those results first. I would expect that we will want to place a well in the landfill itself no matter what just to be on the safe side. This would not require a drill rig and could be done at any time.

JD/ih

